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The Macdonald Journal

SEPTEMBER 1978

Volume 39, No. 9
September, 1978

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The Macdonald Journal
is published every month
by Macdonald College.

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all inquiries re editorial matter,
advertising, and subscriptions to:
The Editor, Box 237, Extension
Department, Macdonald College,
Quebec, H0A 1C0.
Second class mail registration
number 0463.

Subscription rates are \$3.00 for
one year, \$5.00 for two years, and
\$7.00 for three years in Canada.
Outside Canada — \$7.00 for two
years.

Printed by Harpell's Press Co-
operative, Gardenvale, Quebec.

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Journal Jottings

As you can tell from the photo on
the cover, we're heading for foreign
shores in this month's issue — at
least for one article. Although my
byline appears on the article, most
of the credit really should go to Dick
Rector, who is featured in "From
Mac to Malaysia. We had the oppor-
tunity to chat with Dick and his wife,
Corrie, last year when they were on
holidays. I subsequently worked on
a draft of the material collected but
realized that there were many more
specific questions that needed
answering to make the article com-
plete. As a result, the draft and a
letter were sent off to Malaysia and
back came the article with my ques-
tions answered as well as a great
deal of other pertinent information.

Dick Rector is a Macdonald
graduate and, as I point out in the
article, not all our graduates venture
so far nor want to. However, it is
one example of the varied career
opportunities that are open to Mac-
donald graduates. As our rather
limited budget would hardly allow a
trip to the Far East for this piece,
we would like to thank the Rectors
for their interest in the Journal and
for sharing a part of their somewhat
different lifestyle with us.

Then its back to Canada and to
things agricultural.

Hazel M. Clarke

The environmental regulations regarding animal production and farm maintenance have recently been prepared in Quebec City. To many of us, pollution of the environment was synonymous with waste generated from our industrial plants. The agricultural industry was never looked upon as a pollutor of major proportions and consequence. This type of philosophy toward farming is slowly changing. In the past the farmer was considered as the custodian of our rural resources and kept the environment esthetically pleasing, which the urban cousins enjoyed during their Sunday strolls through the farmland. He was and, to a certain extent, still is looked upon as the provider of cheap food for our society.

Things have changed over the past decade. First of all in today's modern agriculture in order to keep competitive the farmer had to increase production, work on a better and more efficient farm, and resort to synthetic aids whose long-term effects on our environment neither the farmer nor the research community fully understood.

The increase in production coupled with the phenomenon of a drastic reduction in farmers augmented the concentration of producers and types of production on the prime agricultural lands of Quebec. These concentrations are illustrated by the statistics released by the government on the number of building permits for animal production requested over the past years: e.g., in 1973, 250 building permits were requested; in 1974, 500; in 1975, 700; in 1976, 1,500; in 1977, 2,000, and in 1978, 2,500. During this same period the government also received 6,400 complaints from citizens concerned or bothered by smell or water contamination.

There is no doubt that the consumer has been in many ways the ultimate beneficiary of the agricultural efficiencies and the farmer very often was left to foot the bill. Also, animal waste management has never been a high priority in agriculture, because very little information and guidance have been made available. The regulations deposited by the Service de Protection de l'Environnement (S.P.E.) indicate, however, that changes are in the air. A parliamentary commission is planned for the end of October to receive all the briefs and concerns before the regulations pass into law. The regulations are complex and will command a close scrutiny from those interested in changing them so as not to disadvantage the farmer. The law is promoted by the S.P.E. but what sort of collaboration will exist between the S.P.E., which will have to enforce the law, and the Ministry of Agriculture, which will have to advise the farmer on the production aspects, buildings, and waste management, is yet to be defined. Who will do the research to study the best ways to dispose of these animal wastes? What is the economic value of various manures? What is the best way to store it so that its seepage into water systems and its smell are minimized? And who is going to pay the final tab if a stringent law is imposed upon farmers? Should we not look upon

the examples of industry and municipalities that are eligible for grants and special long-term loans to tackle these problems for the benefit of society? If so, should there not be a social cost to minimize the financial burden which may face the farmer? Although assurances have been given that existing operations will not have to move, farmers will be required to adhere to the norms of storage and disposal of manures by 1982.

It is now up to the farmer and those involved in the agricultural industry to research and assess the impact of the regulations. Any opinions should be voiced to make certain that the future policies and laws are realistic and sensible.

Martin van Lierop
Editor

From Mac to Malaysia

by Hazel M. Clarke

"I love it. How could anybody go wrong? I have help with the housework. I do, of course, look after the children, but again if there is anything else that I must do, I can leave knowing that they are being well cared for. I can teach, which I like to do; I can play tennis, which I love to do. Everything I could possibly really like in life I have — plus we travel every year. I wouldn't have it any other way, at least for the time being."

This very positive summation of life in Malaysia by Corrie Recter correlates the sentiments of those of her husband's Dick, a Macdonald College graduate who is with the Harrisons & Crosfield group of companies. The resources of the group have been built up through 70 years of large-scale operations in tropical agriculture. From the first plantation in Ceylon in 1899, the group began operating in Malaya in 1903, Sumatra in 1906, Southern India in 1907, Java and Sulawesi in 1911, Sabah in 1917 and more recently in Papua New Guinea in 1967. In these territories, plantation developments in rubber, oil palm, tea, coffee, cocoa and coconuts have exceeded 200,000 hectares (500,000 acres).

Throughout its 70 years of operation, the group has built up a great deal of know-how and experience and to remain in the forefront of new developments and scientific techniques, the group has its own research stations and laboratories specialising in plant breeding, quality control of produce, research and development. In order to make available to the fullest extent the talent and resources of the group, Harrisons Fleming was

formed in 1969 to provide advisory services in the field of tropical agriculture.

It is with the latter company that Dick Recter is employed; his base of operation is in Malaysia but he is responsible for the overall activities in South East Asia and the Pacific.

Dick, his wife and children were holidaying last summer at Corrie's parents, Peter and Betsy Oomen in Ste. Anne de Bellevue. This was the last leg of their home leave which had included Europe and the United States. Yearly home leave is another of the benefits enjoyed by the Recters, and we took the opportunity of chatting with them during their visit. It's a long way from Macdonald College to Malaysia — not all our graduates venture as far, nor wish to. We were intrigued to find out how Dick had obtained his position and, of course, anxious to learn more about his work and his feelings about life in the tropics.

He explained that the dominant tropical tree crops in Malaysia are rubber, oil palm, coconuts and cocoa ranked in accordance to total area planted. There are some two million hectares planted with rubber, of which 68 per cent is planted on smallholdings, and 640,000 hectares (32 per cent) are under estates. The total oil palm area has reached some 750,000 hectares of which the majority is grown on an estate basis. With these large plantings of rubber and oil palm Malaysia is the largest producer and exporter of these crops. Rubber production in 1977 is estimated to have reached 1.74 million tonnes and palm oil production was expected to

increase to 46 per cent of world wide production in 1977.

Estate production is mainly on centrally managed estates, consisting of public and private companies, and administered centrally. Of the total area five big companies, one of them being the Harrisons & Crosfield group, manage almost three-fifths of the rubber area involved or some 400,000 hectares. Nowadays rubber is planted from nurseries into the field and it takes six years before rubber reaches maturity and can be tapped. Total yield per hectare increases with the number of trees per hectare, but yield per tree goes down. Taking into consideration all relevant parameters, rubber production is usually based on some 350 trees per hectare.

Tapping of a rubber tree is done by cutting across the latex vessels, and is usually done at an angle of 25° to 30° from high on the left to low on the right. A tapping knife is used to shave off a thin but continuous slither of bark. The latex streams out of and along the cut surface, across a metal spout, and into a cup which is supported by a special hanger. Overall yield per hectare increases from the first year of tapping until it reaches a top after which it declines to a level which makes exploitation uneconomic after 25-30 years.

Oil palm has a shorter immature period and is planted out into the field after one year in the nursery, after which it reaches maturity in three years. Yields tend to increase rapidly during the early years of maturity, with a gradual decrease thereafter. Replanting takes place usually every 25 years.

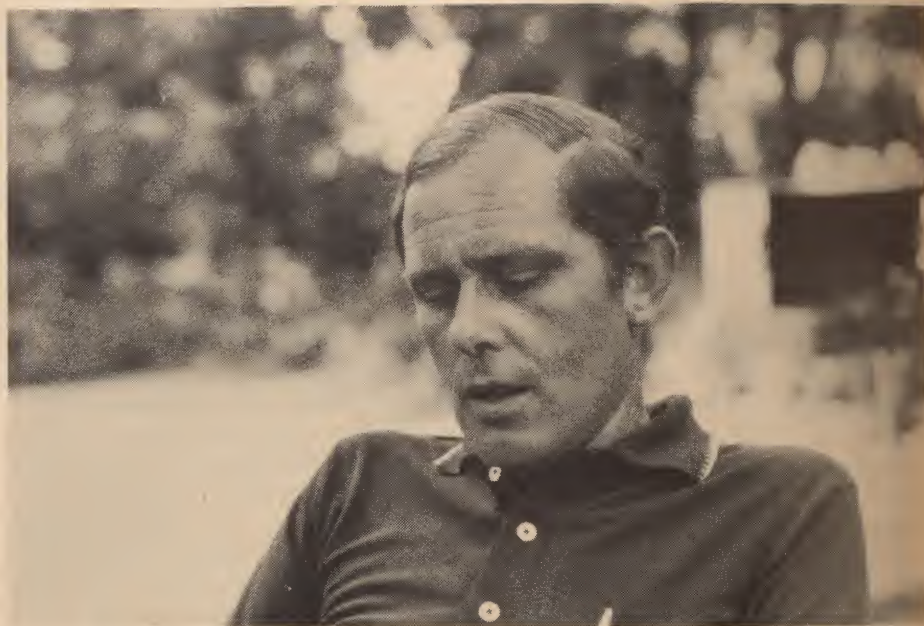
The number of palms per hectare is still an issue which is under constant review. The reasons underlying this problem are many. Presently an average 135-150 palms are planted per hectare. Fruit bunches are harvested on the average once every 10 days and transported to the mill for processing.

Labour requirements vary, but when a rubber or oil palm estate reaches maturity one labourer can normally look after four hectares of rubber and six hectares of oil palm respectively.

Dick told us that his interest in agriculture started at an early age in Almelo, Holland, where he would spend his summer holidays on a farm. He then studied tropical agriculture for three years at the State Agricultural College in Deventer. He might have continued his studies in Holland had it not been for the fact that the tropical studies there were very much in tune with the requirements on the Dutch-owned plantation companies in Indonesia, a country which at that time was in political turmoil resulting in the nationalization of the Dutch-owned plantation companies and the mass exodus of Dutch citizens from Indonesia. Dick realized that in order to work in the tropics he would be better off with a degree from an English-speaking University and thus, as have many other Dutch students, he came to Macdonald College in 1959.

"In order to improve my English, I came over in August, lived in residence and picked apples and tomatoes," Dick recalls. "After I received my B.Sc. in '61, majoring in agricultural economics, I went on to do my Masters at McGill while being a resident at Macdonald."

His first trip to Asia came as a result of having a job in New Brunswick. When Dick had finished his course work towards his Masters, he was hired as a research assistant by a Toronto consulting firm who were working



"Oil palm (above) is planted in the field after one year in the nursery and reaches its maturity in three years," Dick Recter told us.

on an ARDA project for the government.

"We were assessing the possibilities of rehabilitating the agro-based industries along the north shore of New Brunswick. After about a year there, the same company obtained a contract from External Aid to carry out a feasibility study of an area in East Pakistan. A multi-purpose dam had been built in one of the major rivers to generate electricity and to irrigate the agricultural land down river. As a result a reservoir had been created and many of the people who were living there were moved to higher ground. This called for a different

type of agriculture and we were asked to assess the situation and come up with an overall development strategy. As part of a multi-disciplinary team I spent six months there, followed by a further year of report writing in Vancouver."

Dick first went to Malaysia in 1967 when the company obtained a contract there under the auspices of the Canadian Colombo Plan to carry out a natural resources survey, including a present land use survey, a forest reconnaissance survey and geological mapping. This was carried out with officers from various government offices in



Malaysia. "I was there as project manager attached to the Prime Minister's department to coordinate the efforts of the 12 Canadians there. The survey took three years — until July, 1970."

Dick explained that he could have stayed on with the same firm but the uncertainty of postings and the uncertainty of the time between postings made him decide it was time for a change.

"The first time we came back from East Pakistan we thought we would be in Canada for four months so we rented a furnished apartment and a car. We were in Canada for 18 months. The second time we rented a house, bought furniture and a car and left Canada after six months. Consequently, when the Harrisons & Crosfield group decided to set up an advisory company, I decided to change jobs and as a result I've been there for 10 years.

"We started in 1970 utilizing the group's resources, which include two research stations — one for rubber and one for oil palm, and the extensive experience built up over a 70-year period. Over the years we have built up a sound reputation in the field of tropical agriculture, utilizing our own staff and where necessary borrowing staff from the parent group. In total we now have some 30 advisers based in the U.K. and Malaysia who undertake projects on a world wide basis. In addition to our head office in London we have offices in Malaysia and Indonesia and also use the offices of the parent group in other parts of the world.

In recent years our consultants worked in the Solomon Islands, Papua New Guinea, Indonesia, Malaysia, Philippines, Thailand, India, Sri Lanka, Oman, Qatar, Sudan, Nigeria, Liberia, Ghana and Mexico. Crops on which they advised were rubber, oil palms, coconuts, cocoa, tea and coffee. In most of these countries services were rendered to governments and government and state owned organizations.

Services were also rendered to development corporations; to the World Bank; to the Commonwealth Secretariat and to many commercial organizations both large and small. Some of these services were on a once only basis, but many were provided on a continuing basis. Services rendered included:

- Assessment of the suitability of the new area for one or more of the tropical tree crops.
- Preparation and submission of preliminary studies, feasibility studies, and development plans for plantation and out-grower projects, and for processing projects.
- Provision of supervision for some new developments, and regular advisory services for others.
- Regular advisory services relating to management, agricultural practice, crop nutrition, harvesting and processing of tropical tree crops in both plantation and outgrower projects.
- Advice on specific problems such as pests and diseases.
- Advice on development of research facilities and research programs and priorities, also on breeding programs for oil palms, coconuts and tea, and establishment of seed gardens for oil palms and coconuts.
- Planning and site supervision for new rubber factories and palm oil mills and advice on maintenance and improvement of existing rubber, palm oil, and tea factories.

Services were provided on more than 260,000 planted hectares of the crops named above. Of these areas, fewer than 50,000 hectares were within the parent group. More than 210,000 hectares were owned by the governments and organizations mentioned above. Units ranged in size from single estates to groups exceeding 44,000 hectares. Services ranged from complete advisory packages for major groups, to single aspects of operations on single estates. Nutritional advice is of particular interest. Annual or longer term

fertilizer recommendations were provided for most of the planted areas over which services were provided and were also provided for all areas covered by studies. Recommendations are framed to be as effective and economic as possible, taking all aspects into account, including the financial justifications for any program recommended.

Dick Recter is travelling about 50 per cent of the time. In the early years this was mainly confined to Malaysia and Indonesia but with the increasing workload it now covers all of South East Asia and the Pacific. Dick anticipates that this will not change in years to come and that a great deal of his time will be spent travelling to maintain contacts with clients, negotiate new contracts, and supervise ongoing ones.

Malaysia is an ideal country, not only to live in, but also to use as a basis for the operations in the region. The country has a mixed population of which some 50 per cent are Malays, 40 per cent Chinese, and the remainder Indians and others. On the whole the Malay population is to be found in rural areas with the Chinese concentrating in the cities and involved in business. This has created an uneven income distribution, and government is pursuing an active policy to redress this economic imbalance, which has met with a fair degree of success.

"Malaysia is one of the most prosperous countries in South East Asia with a very effective middle class," Dick said. "There is no poverty, lots of work, and economic stability. As I said before it is a pleasant place to live. It's very hot, but cars and offices are air-conditioned and the houses are big with lots of open spaces. There are some people who cannot get used to the climate. We have met people who just hated it — they couldn't wait to get transferred. If you do

(Continued on Page 13)

Recent Advances in Insect Pest Control

by Professor W. N. Yule,
Department of Entomology

What's new in pest control? Quite a lot really, and the science of pest management is nowadays one of the happier cases of the application of modern technology for direct public benefit, albeit arriving at this present satisfactory state by crossing some pretty rough terrain.

Canadians are very fortunate in being able to produce adequate (in some cases, surplus) amounts of high-quality food, and to enjoy comparatively good health (is obesity our worst national disease, or is it aggressive hockey?). However, smaller, more densely populated, and less developed countries are still very concerned with age-old problems of food production, storage, and importation, and with improving general health standards, which are much more basic factors for survival than our own profit dollar concerns. This is the area where effective pest control counts most, yet much of the essential modern technology involved is developed in areas such as North America.

One can haul out conflicting ballpark figures from textbooks on human losses to "pests" such as weeds, diseases, vertebrate animals, and insects. Examples are: "30 per cent of agricultural production is lost to pests on a global scale," or "malaria (caused by a Protozoan blood parasite carried by certain mosquitoes) is historically man's great killer disease."

Here in Canada, we reckon that 15 per cent of our total agricultural production could be lost to us if no pest control operations were carried out, and apart from localized outbreaks of minor insect-vectored diseases,

we enjoy good health (our mosquitoes are "clean"). On the other hand, Canada for several years has been the site of the biggest aerial spray application of insecticides in the world — the infamous spruce budworm control campaign — undertaken in an attempt to protect our huge forest resource.

All of us who have lived through part of this twentieth century have a working knowledge of the progress (and accompanying pros and cons) we have made in controlling pests and diseases but may not be aware of some of the latest and best developments. That is the purpose of this article which will deal mainly with insect pest control. We've heard Grandpa talk about grasshopper plagues, dust bowls, and bed bugs, where the best we could do was dig ditches round fields or spread around general poisons such as arsenic in a feeble attempt to deal with big insect problems. A few organic insecticides were also available in this pre-1940s era such as the general poison nicotine, or the more selective (i.e., killed mostly cold-blooded animals) pyrethrum and rotenone. These "natural" insecticides tended, however, to be expensive and have import-supply problems. Entomologists of the day attempted to "re-adjust the natural balance" particularly in dealing with introduced pest species, by importing and boosting the numbers and control effectiveness of natural predators and parasites of a pest species. There were a few spectacular successes using this form of biological control, but there were many more heartbreaking failures, caused in some cases by the current lack of knowledge of the new science of ecology and a poor understanding of the complexity and interactions of natural systems.

Came World War II and the

discovery of the fantastic insecticidal properties of the relatively cheap synthetic organic DDT family of chemicals, and we thought our pest control problems were over. However, with increasing and prolonged use of these persistent insecticides, new problems arose, such as insecticide resistance and pest resurgence, toxic residues in foodstuffs, environmental pollution and ecological disruptions. Other less persistent, more selective, synthetic chemicals of the organophosphorus and carbamate type were developed, but these tended to be more costly and hazardous to the user. Other kinds of chemicals which affected the behaviour and physiology of pest insects, rather than being outright poisons, were developed. At last, in the 1960s, the long-held dream of the economic entomologist and applied ecologist became a possibility — the integrated control of pests of crops, livestock, and man. This involved the systematic application of all known methods of control for a particular pest complex, cultural, physical, biological, biochemical and chemical, towards a less costly, and a more stable and permanent solution. Nowadays, with our improved knowledge of ecological mechanisms supported by the modern technologies of systems analysis and computers to deal with the complexities and interactions of "agro-ecosystems", large-scale "integrated pest management" schemes have been successfully developed and applied to major pest control problems in several parts of the world.

This is the relatively "happy state of the art" of pest control that we have reached today, and I shall now back-track a little and detail some of the recent advances I have introduced above.

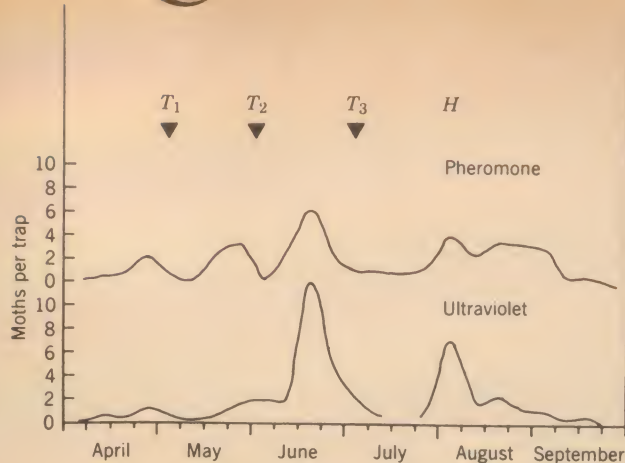


Fig. 1. Use of pheromone traps and ultraviolet light traps for timing spray applications for codling moth control in California pear orchards.

T = spray treatment; H = harvest.

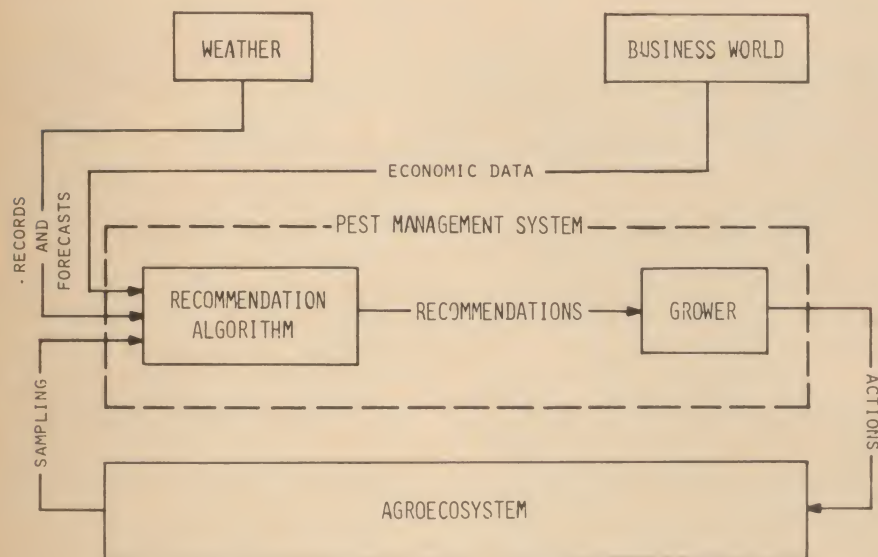


Fig. 2. Diagrammatic representation of a pest-management system in operation.

Toxic Chemicals

Chemists have developed and refined organophosphorus chemicals from the deadly nerve gas prototype of the 1940s war period to the extent that they can now be used systematically in farm animals to control various insect parasites. For example, ronnel and coumaphos can be fed, sprayed, dipped, rubbed on, or poured on to beef cattle to control warble fly grubs. Malathion can be applied to growing crops, stored foodstuffs, and household premises to control many kinds of insect pests. Plant systemics such as phorate can be applied in the furrow in slow-release formulations to be taken up by the growing plant for long-term protection against insects. Or, plant-systemic chemicals such as dimethoate can be applied direct-

ly to the leaves and stems of a growing plant and provide short-term protection against sap-sucking insect pests and virus vectors such as aphids, without harming natural predators like ladybugs and lacewings, or honeybees.

There are many more examples of new chemicals that have been developed for increased effectiveness and safety in pest control. Several synthetic pyrethroids have been devised which retain the selective insecticidal activity of natural pyrethrum, while improving on its stability and reducing cost and supply problems. Good progress has also been made with the formulation and application of insecticides.

There has also been a lot of legislative action to control the use



Larva of the alfalfa butterfly, *Colias philodice eurytheme* Boisduval, dead of polyhedrosis. Observe how fluid contents of body have gravitated to anterior end of insect.

of hazardous chemicals and to limit the misuse of "registered" pesticides. For example, Agriculture Canada has evaluated the results of rigorous testing procedures required of producers for potentially-marketable agricultural chemicals, and approved (registered) 3,600 specific formulations (of which 1,330 are insecticides) for specific pest control applications. The approved usage of each material is repeated on the label of each packaged product, together with information on dosage, timing and hazards to the user, and several laws, with punitive measures for offenders, have been legislated to discourage misuse of these toxic chemicals. Better read the label before use!

"Bio" Chemicals

A whole new range of biologically-active non-toxic chemical principles has been developed in recent years, many of which are cheaper synthetic analogues of naturally-occurring insect biochemicals. These are used in pest control to modify normal physiological processes or behavioural responses in specific insects, which leads to a reduction in their numbers, density or damaging activity, without poisoning them directly. Examples of these are attractants, repellents, sterilents, sex-attractants, hormone analogues,

metabolic inhibitors, and anti-feedants. These are often used directly as with toxic chemicals or in conjunction with physical traps to attract, capture and/or release insects back into the natural population to spread their abnormality amongst their friends and mates.

Examples of the use of these "modifier" chemicals in North America include the use of attractant poisonous baits (e.g. ants), the use of pheromones or sex attractants against several moth pests of orchard fruits either to attract usually the male moths to a toxic trap or chemosterilant, or to spread the chemical around and "confuse" the ardent males. If you've been out in the Canadian woods (especially in June) you will have appreciated the effect of chemical repellents applied to your skin to "turn away" our ravenous species of mosquitoes and blackflies. The males of several moths and flies (e.g. codling moth, screw worm, and onion maggot) have been sterilized physically by radiation, or chemically with chemosterilants, used either in "fly production factories" or in the field, and released into an insecticide-reduced population to wend their impotent way amongst the females of the species, and eventually run down population size and economic impact. A previous article in this journal (April, 1978) described the use of a metabolic inhibitor against the Gypsy moth in Québec, and moulting hormone analogues have been used successfully against mosquitoes here and elsewhere. Anti-feedant chemicals, as well as inert abrasive dusts, have been developed to protect food and fabrics in storage against insects which can eat and spoil such valuable commodities.

Biological Control Agents

The importation of specific insect parasites and predators (mainly wasps, flies and beetles) to control

introduced pests has tended to run down here in recent years. The emphasis has shifted to conservation of native parasitoids by judicious use of cultural practices and smaller amounts of selective chemicals in integrated pest management programs. Some exciting progress has been made in the field of insect pathology, however, and several bacteria, viruses, nematode worms, protozoa and fungi have been found which appear to produce disease epidemics only in specific insect pests. For example, the bacterium *Bacillus thuringiensis* is registered here for caterpillar control (e.g. cabbage worm and spruce budworm), and a nematode has been used successfully to control mosquitoes in western Canada.

Considerable progress has been made by plant breeders and entomologists in developing varieties of crop plants which are resistant to direct insect attack, or to the plant viruses that they spread. A local success story is the development of corn varieties resistant to European corn borer. Other research activities by insect geneticists look promising for disrupting insect reproduction and causing population irregularities in certain pest species.

Physical Control Agents

All farmers realize that when they plough and harrow their fields, they crush and expose many insect pests (birds seem to know this too!). However, in modern pest management, some of these traditional cultural practices are applied in a much more sophisticated way. For example, a thorough knowledge of the life cycle of a pest and its predators, and of crop phenology, can be correlated hour-by-hour by computer with meteorological data,

biological monitoring, and market economics, so that the farmer can have instant "phone-in" advice about the very best time to plough, sow, harvest, and spray for maximum all-round benefit.

We all know the effectiveness of fly screens in keeping premises clear of insects. However, even this simple preventive physical control method has been refined by adding an ultra-violet attractant lamp behind an electrified screen. Visitors to Macdonald Farm are either impressed or nauseated by the frequent sizzles emanating from such "fly zappers" installed inside the dairy barns. Research on various forms of radiation energy, light, heat, microwave, laser, and sound are producing some interesting results which may be useful in pest control.

Pest control is a topic that does not normally enjoy good public relations — that is, with an affluent and environmentally-concerned society such as we have in North America. However, I hope I have recalled for you some of the "bad old days" when we couldn't control pests effectively, some of the early days when we found we could (e.g. with DDT) but fouled up here and there while developing our science, and on to the present day when economic control of pests is quite attainable without involving unacceptable hazards to ourselves and to the ecosystem.

As the economic entomologist says, "We live in interesting times — but don't bug me!"

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**Effect
of
Rumensin¹
on
Beef Cattle
Performance**

**by H. Garino,
Department of Animal Science**

¹Rumensin is the Trademark of Elanco Products Company of Indianapolis, Indiana, U.S.A.

Rumensin (monensin sodium) is a compound produced through fermentation by the mould *Streptomyces cinnamonensis*. This compound has been used for many years as an anticoccidial agent for both poultry and cattle. At the end of 1975 monensin sodium was introduced as the additive, Rumensin, for feedlot cattle rations in the United States, and in the fall of 1977 it was cleared for use in Canadian feedlots.

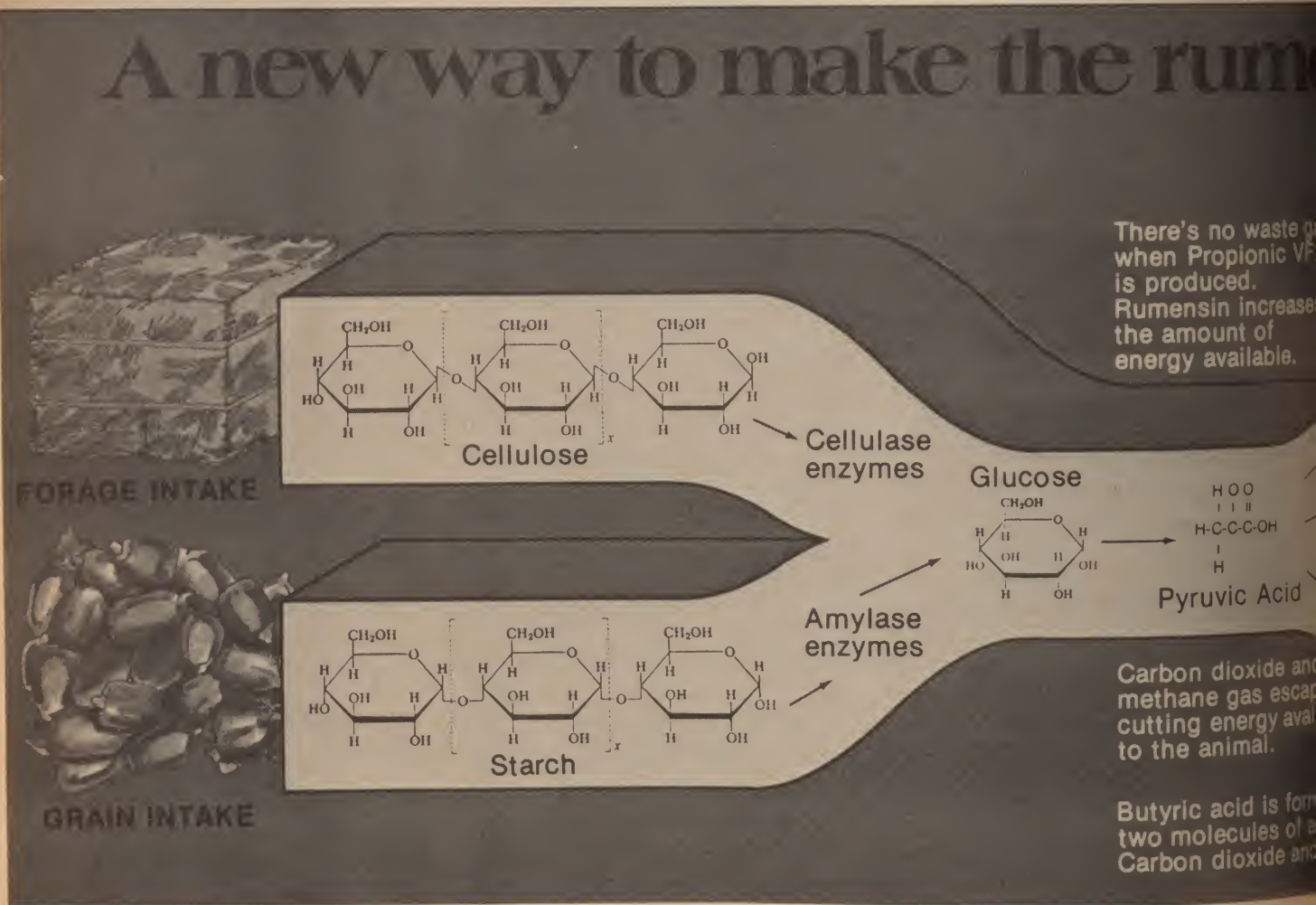
Rumensin is effective in increasing feed conversion of feedlot cattle by consistently decreasing feed intake while allowing cattle to produce gains equal to those not fed Rumensin. This increase in feed efficiency², by an average of 10 per cent, results in considerable savings which could lessen the financial burden that our beef producers have been facing in the last few years.

The ruminant animal is unique in that its rumen contains billions of organisms (bacteria, protozoa) which are able to break down roughage (cellulose) and concentrates into products which are utilized by the host for growth and maintenance. Ruminal fermentation of energy feeds (cellulose, starch) results primarily in the production of three short chain volatile fatty acids (VFAs), namely acetic, propionic, and butyric acids. As illustrated in Figure 1, when acetic acid is produced from glucose only 62.2 per cent of the energy is trapped. With butyric acid production, 77.9 per cent of the energy is trapped whereas with propionic acid over 100 per cent of the sugar molecule is recovered (the extra energy coming from the salvage of waste hydrogen). Thus the production of propionic acid in the rumen in lieu of acetic or butyric acids results in a saving of energy from the feed that can be utilized by the animal for maintenance and/or production.

In laboratory tests at Lilly Research in Indiana, Rumensin added to rumen contents increased production of propionic acid by 46 per cent and reduced acetic and butyric acid concentrations. When Rumensin was added to the ration of finishing steers for a 148-day period, propionic acid was increased 28 per cent. These results have been confirmed by work in other laboratories. At Oklahoma State University, cattle were fed 14, 30 or 75 per cent corn silage and the greatest increase in propionic acid and greatest decrease in acetic acid was found with the higher silage ration. At Guelph, it was observed that the ratio acetate:propionate in the rumen decreased when Rumensin was added to haylage rations. At Kemptville College of Agriculture, rumen fluid from steers fed Rumensin was higher in propionic acid than fluid from control animals. These results suggest that the mode of action of Rumensin is to alter rumen VFA fermentation by either changing the microbial metabolism

²Feed efficiency is defined as units required per unit of liveweight gain.

Diagram from Elanco Products Company.



or the proportions of microbial species so that more propionic acid is produced with a consequent improvement in energy utilization.

Feedlot Performance

Over 65 per cent of the feedlot cattle in the U.S. and most of the largest feedlots in Ontario and Quebec are fed rations containing Rumensin. The main reason for this widespread use is illustrated in Table 1. These are results from 28 trials conducted in U.S. feedlots where Rumensin was added at various concentrations. The total cost saving due to Rumensin (added at the rate of 25 grams/ton of dry matter) was about \$23 for each 272 kg of gain.

At Guelph, 72 crossbred calves were on a trial where Rumensin was fed to half of them in different rations and a control was fed to the remaining animals. The levels of Rumensin were 50 mg per day for the first 28 days and 150 mg per

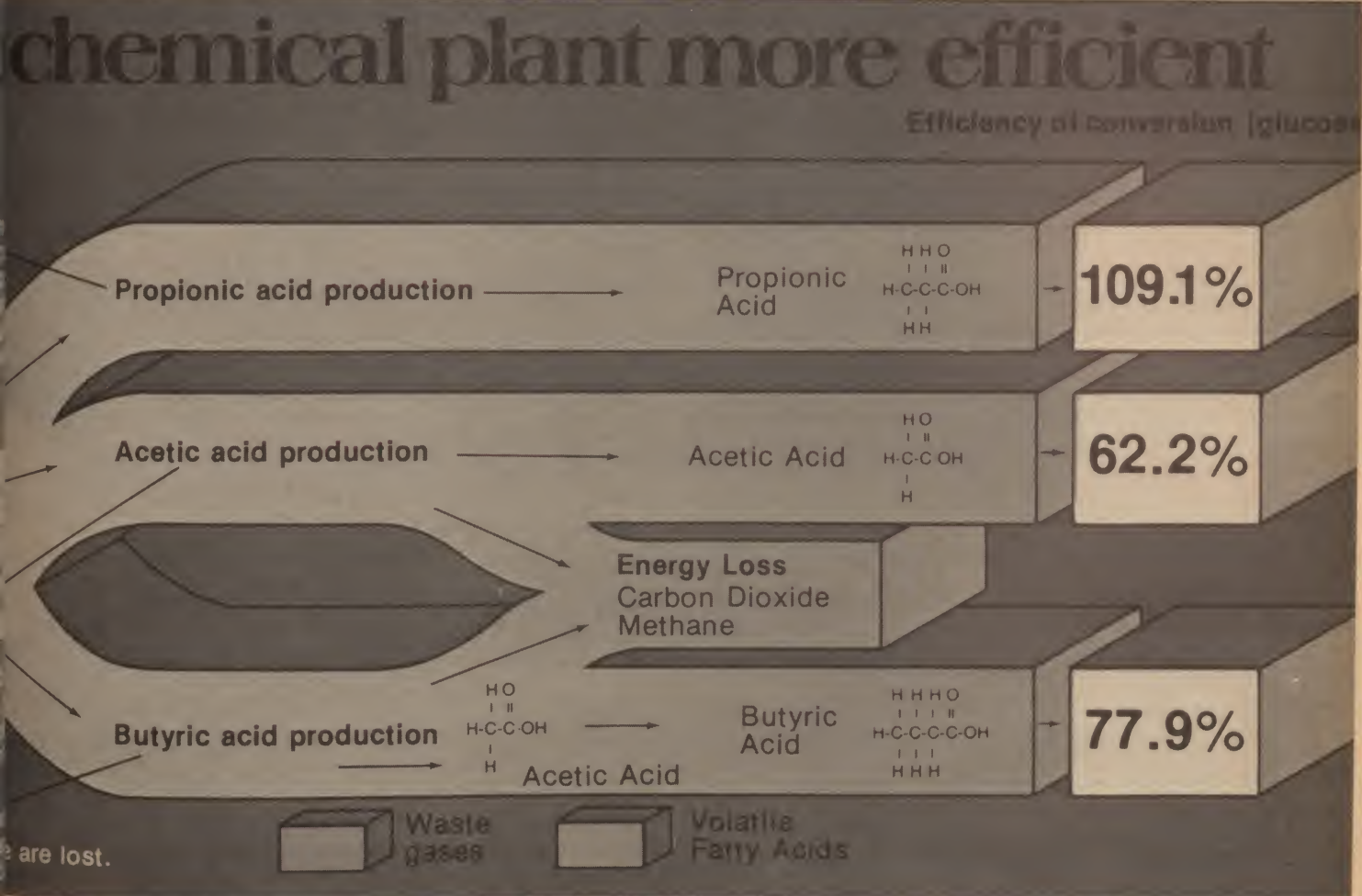
day for days 29-112. During this growing period it was fed with corn silage. For the finishing period 200 mg/head/day of Rumensin was fed with mainly high-moisture shelled corn. The results are shown in Table 2. During the growing phase, Rumensin improved feed efficiency by seven per cent. Feed efficiency was improved by 13 per cent for the complete trial. Rate of gain was increased by nine per cent allowing the Rumensin-fed cattle to be marketed an average of a week earlier.

At Kemptville College of Agriculture, 72 300 kg Holstein steers were fed corn-corn silage rations with approximately 0, 22, and 32 g/ton dry matter of Rumensin for 112 days and feed efficiency improved by approximately five per cent for the 22 g/ton group and 8.5 per cent for the 32 g/ton group. In another trial, Rumensin (33 g/ton dry matter) with a haylage-shelled corn ration improved feed efficiency by 8.5 per cent.

In most trials conducted in the U.S., Rumensin did not greatly affect the rate of gain, but it had a significant effect on decreasing average daily feed intake and consequently improving feed efficiency. These effects were more visible in corn silage and forage rations than in concentrate rations, and this may possibly be due to the fact that consumption of concentrate rations is lower than of forages.

Performance on Pasture

The effect of Rumensin under grazing conditions has been studied with different types of cattle — steers, heifers, calves, and cows. In Indiana, steers on pasture plus 200 mg of Rumensin/day had an average daily gain 15 per cent higher than steers on just pasture. Another group fed green chop plus Rumensin in a grain supplement showed a better feed efficiency (11.9) than cattle without Rumensin (13.9). In this trial, however, feed consumption did not decrease for the



Rumensin-fed group, and this led the researchers to believe that the improvement in feed efficiency was due to a better utilization of the forage.

In Louisiana, steers fed 200 mg/head/day of Rumensin produced 25 per cent more beef/hectare than cattle not given the additive. Heifers on pasture plus Rumensin gained 25 per cent faster than those without Rumensin supplementation.

In Oklahoma, weight changes of lactating cows given Rumensin for the winter were minimal, but cows not given the additive lost weight. There were no differences in milk production between the two groups, but calves of Rumensin-fed cows gained seven per cent faster than the calves from the control cows.

In Mississippi, steers and cows on pasture supplemented with molasses-mineral blocks with or without Rumensin performed comparably with regards to weight gains but those on Rumensin consumed fewer blocks.

In Oregon, cows fed Rumensin showed heat 30 days after calving as compared to 42 days for the control cows. Feed efficiency and weight gains were also better for the Rumensin-fed cows.

All these results point out that Rumensin improves the performance of all types of cattle — steers, heifers, cows, and calves — when it is supplemented to pasture. To date, however, Rumensin has not been approved for pasture feedings.

Rumensin with Additives or Growth Promotants

In Kansas, Rumensin used with amicloral (a methane inhibitor) for heavy yearling steers resulted in increased gain, decreased feed intake, and improved feed efficiency in an additive fashion. However, when Rumensin was used in cattle given bicarbonate none of these improvements was noted. It seems that further work is required to study the effects of combinations of drugs. For this reason Rumensin is not ap-



Although Rumensin has not been approved as yet for pasture feedings, studies show that it does improve the performance of all types of cattle on pasture.

TABLE 1. Influence of monensin on economic returns

Item	Monensin level, g/ton						
	0	5	10	20	25	30	40
Daily gain, kg	1.08	1.13	1.13	1.10	1.12	1.08	1.06
Days for 272 kg gain	251	240	240	247	242	252	258
Daily feed, kg of DM	8.49	8.36	8.36	8.03	7.90	7.80	7.65
Feed/kg gain, kg of DM	7.89	7.38	7.41	7.31	7.08	7.23	7.22
Feed cost/45.4 kg gain, \$ ^a	41.03	38.38	38.53	38.01	36.82	37.60	37.54
Feed cost/272 kg gain, \$	246.18	230.28	231.18	228.06	220.92	225.60	225.24
Monensin cost/272 kg gain, \$ ^b	—	.61	1.22	2.43	2.93	3.60	4.84
Non feed cost, \$/head One lot/year ^c	49.24	48.20	48.20	48.86	48.39	49.34	49.91
Continuous feeding ^d	44.63	43.16	43.16	44.10	43.43	44.77	45.57
Total costs/head, \$ ^e One lot/year	295.42	279.09	280.60	279.35	272.24	278.54	279.99
Continuous feeding	290.81	274.05	275.56	274.59	267.28	273.97	275.65
Reduction in total costs/272 kg of gain due to monensin							
One lot/year	—	16.33	14.82	16.07	23.18	16.88	15.43
Continuous feeding	—	16.76	15.25	16.22	23.53	16.84	15.16

^aFeed cost of \$5.20/45.4 kg of dry matter.

^bMonensin cost of 5¢/g (\$25 added cost/ton of supplement that contains 113.4 mg of monensin/kilogram).

^cNonfeed costs for farmers that feed one lot/year calculated to be \$25.40 plus \$0.095/day.

^dNonfeed costs for farmers who keep their lots full at all times calculated to be \$11.00 plus \$0.134/day.

^eIncluded feed cost, nonfeed cost and cost of monensin.

proved for use with other dietary feed additives.

In the case of growth promotants (Ralgro, Synovex), as they do not act in the rumen their use with Rumensin is allowed and their effects seem to be additive. At the Shur-Gain Research Farm in Toronto, Rumensin and Synovex resulted in a 17 per cent improvement in feed efficiency.

Other Considerations

Since Rumensin results in better feed efficiency mostly through a decrease in feed intake, care must be taken to ensure that protein requirements are met with less feed.

The majority of the literature reports no significant effect of Rumensin on carcass characteristics. However, a

Purdue University study pointed out a higher incidence of liver condemnations in Rumensin-fed cattle.

Conclusions

Rumensin, when added to feedlot rations following the manufacturer's instructions, improves feed efficiency by an average of 10 per cent resulting in considerable savings to the producer. All cattle — steers, heifers, cows, calves, yearlings — show this feed-saving effect. Since Rumensin is not a hormone, no withdrawal period is required. Rumensin can be used with growth promotants and the resulting improvements should be additive. The cost of feeding Rumensin has been estimated at 1-1/2 cents per head/day and the return on this investment is estimated at eight times its cost. It looks like it is worth a try.

(Continued from Page 5)

not do any exercise you slow down, but there is squash, tennis, golf, and swimming. I am sure that we do more physical exercise than the average Canadian because we feel there is a need to do it. Otherwise one would become lethargic."

His wife agrees. Corrie, too, started her higher education at Macdonald with a year in Food Science before switching to Physical Education, the first year of which she also took at Macdonald. Physical Education then moved to the McGill Campus. "The children don't lack anything, either," Corrie told us. "They take ballet lessons, they can ice skate and from that jump into the swimming pool." She was very enthused about the facilities for the children. They go to an American-oriented International School with about 52 per cent of the children being American. "Because the school is small, you have a lot of input as a parent and also as a teacher. Therefore the children benefit. They can take part in drama or athletics even though they can barely walk, because you need everybody."

We sat talking with the Rectors on one of our rare hot days last summer; while you read this the temperature in Malaysia could be around 35°C, and the humidity 90 per cent. Possibly not a lifestyle that would suit everyone, but it certainly seems to agree with Dick and Corrie and their children.

TABLE 2. Effect of Rumensin on performance and carcass characteristics of growing and finishing calves.

Item	Control	Rumensin
No. of pens	12	12
No. of calves	36	36
Days on feed	262	254
Live weight, kg		
Initial	212.5	206.7
112 days	325.9	326.2
Final	484.7	494.3
Daily gain — 112 days	1.01	1.06
— final	1.04	1.13 * (+ 9%)
Daily DM intake, kg		
112 days	5.29	5.04
Final	6.98	6.64
DM intake/gain		
112 days	5.27	4.91 (+ 7%)
Final	6.55	5.70 * (+ 13%)
Carcass traits		
Hot carcass wt., kg	276.7	282.3
Dressing %	57.1	57.1
Rib eye area, cm ²	78.1	76.8
Fat cover, cm	1.04	1.14
Side, % fat	27.1	26.0
% lean	57.8	58.7
% bone	15.8	15.8
% ether extract	27.9	26.6
% moisture	55.2	56.0
% protein	16.1	16.4

The Family Farm



Published in the interests of the farmers of the province by the Quebec Department of Agriculture.



THE SIXTIETH ANNIVERSARY OF "LA FERME DE DESCHAMBAULT"

The institution now called "Deschambault Agricultural Research Station", after having been known successively as "Provincial Nursery" (1918-1931) and "Provincial Farm-School" (1931-1964) is celebrating the sixtieth anniversary of its foundation this year. The fond memories it brings to mind for many agronomes and farmers, and the place its story holds in the development of Quebec agriculture prompts us to recall a few episodes of its past.

The purchase of the farm of Deschambault (Portneuf) goes back to November 6, 1918 when Sir Lomer Gouin's government bought two neighbouring farms with a total area of 125 hectares, which was part of the domain formerly belonging to the Seigneurs de la Gorgendière. The first director, J.-Henri Lavoie, agronome, to whom the authorities entrusted the transaction, chose this site because its location, topography, soil and means of access offered many guarantees of attaining the desired aims.

What were the aims? There were two: one official, the other semi-official. The first: to establish for the benefit of Quebec horticulturists a fruit tree nursery; the second, to erect a French-language institute for teaching agriculture, which was already being requested by many people in the agricultural sector. The author is indebted for this historical detail to Mr. Lavoie himself who mentioned this to about 100 persons assembled at Deschambault in October 1944 to celebrate the silver anniversary of the institution.

The plans for an institute at Deschambault did not materialize, but the nursery was started there in the spring of 1919 when the one which had already been operated for four years at Berthierville by the Department of Agriculture on land rented in the Provincial Farm Nursery was moved to Deschambault. But 125 hectares of land for a nursery which, originally, was supposed to take up only five, was far too much. The director established a mixed farm but the nursery remained his favourite.

In 1931, Stanislas J. Chagnon, the second director, was entrusted with the task of making Deschambault institution a farm-school with dairying the main enterprise. An Ayrshire herd was later established alongside the herd of "Canadian" cattle, whose first members came from Lake St. John. The fields were reorganized and new buildings were erected. A school was opened for sons of farmers and it became very popular. In 1940, Mr. Chagnon left Deschambault and Andréa Saint-Pierre replaced him as head of the farm-school. A new era began with this third director. From then on, the institution specialized in improving a single breed: the "Canadian."

The Ayrshires, hitherto kept at Deschambault, were then sent to

Saint-Hyacinthe, and the Dairy School there surrendered its "Canadian" cattle to the farm-school.

The steady increase in the livestock required the enlargement of the institution to more than 250 hectares, and it has occupied, since the early sixties, all the land once known as "Terre d'Eschambault". In 1963, a new stable was built and, two years later, a new poultry house. The farm-school became the Deschambault Agricultural Research Station, under the direction of Jean-Marc Bélanger whose successor was Jean Genest, the present director. The organization and policy of the station today are well-known.

Through its age and accomplishments, the Deschambault farm is part of Quebec agricultural history, which it has influenced. Thousands of farmers, villagers, even city dwellers have visited it, drawn there at some time by its site, arrangement, livestock, crops, teaching, and prestige. Long before the local agricultural information office was installed there in 1967, Portneuf farmers knew the way to it. The Deschambault Agricultural Research Station remains a privileged place to work and meet. It is appropriate to draw attention to its sixtieth anniversary.

Jean-Baptiste Roy (Reproduced from the periodical "Agriculture" (Québec), September, 1978.

NOTICE TO ABATTOIR OWNERS

As of December 31, 1979, no person will be able to operate an abattoir without a permit. This is the final date for abattoir operators who wish to operate an establishment under

permit and be authorized to supply retailers and wholesalers.

This is what the Department of Agriculture told abattoir operators

last August, suggesting that they decide quickly.

Once they hold a permit, these operators will immediately be able to use the stamp "Approuvé Québec" and benefit by the permanent presence of an inspector and a veterinarian. However, in the meantime, they must have plans and specifications approved and finish construction work in order to operate legally on December 31, 1979.

The Agricultural Products and Food Act, which governs abattoir owners, provides for permit exemption for

those who, on June 14, 1977, operated an abattoir used exclusively to supply their plant. However, such operators must register with the Quebec Department of Agriculture and comply with the rules of hygiene required by the regulations.

As regards abattoir owners who choose to put their abattoirs to some other purpose, they have less than one year for the grant provided for this purpose in the meat rationalization program. In fact, they must take the necessary steps entailed by this decision before July 25, 1979.

especially renovated for this purpose, was left unused; it may also serve to accommodate similar events in the future.

At the Salon this fall, Quebec's most important industry will be on display at the biggest stadium in the province. Mr. Garon was particularly pleased to note that, what less than a year ago seemed hardly likely to materialize, is now almost a reality in which he would like everyone to take part.

For its part, the Government of Quebec wished to emphasize the public aspect of the Salon by helping to organize and finance it directly through a Centre for the promotion of the Food and Agriculture Industry. This is a non-profit organization made up of representatives from the Quebec Department of Agriculture, "l'Union des producteurs agricoles", and the Quebec Food Council, and whose mandate, among other things, is to oversee the preparation of the Salon. Moreover, the Government of Quebec will be the most important with respect to information booths. Of particular note is the one set up by the Department of Agriculture, the aim of which is to increase the visitor's awareness of the importance of Quebec agriculture, as much from an economic as a social point of view, and induce him to give priority to Quebec food and agricultural products. The Quebec Department of Agriculture is also responsible for the reception centres, livestock facilities, and the judging of the competitions.

Mr. Garon's visit to the site of the International Salon of Food and Agriculture was highlighted by the signing of a 10-year agreement between the Olympic Installations Board and the Centre for the Promotion of the Food and Agriculture Industry. This means that Quebec's agriculture will now be able to occupy a prominent position at food and agriculture fairs of an international scope.

AN UNPRECEDENTED MEETING OF QUEBEC FARM PRODUCERS AND CONSUMERS

On August 1, 1978, Jean Garon, Quebec's Minister of Agriculture, led a visit to the section of the Olympic Stadium being set up for the International Salon of Food and Agriculture, which will be held for the first time at this site, from October 22 to 29, 1978.

The renovations carried out by the Olympic Installations Board were made possible by a \$1,100,000 budget passed by the Cabinet in November, 1977, on the recommendation of the Minister of Agriculture and his colleague, Claude Charron, Minister-Delegate for Youth, Leisure and Sports. By opening the Stadium to the food and agriculture industry, a giant step has been taken toward increasing general public awareness of the importance of the agro-food sector in the province.

The 500,000 square feet or so of space set up at the Olympic site for the Salon this fall, will accommodate the biggest gathering of consumers, farm producers, and food processors Quebec has ever known. During eight days, in the heart of Montreal, an unprecedented number of farm products, livestock

of all types, equipment, and information and food product booths will help to familiarize the public with Quebec's agriculture and the various people involved in it. The renovated section under the stadium's seating area will be able to hold 1,700 head of livestock at one time, including 1,200 horses and cattle, thus making the Salon one of the largest livestock exhibitions, not only in Quebec but also in Canada as a whole.

The international scope of the Salon will be assured by the presence of numerous countries such as France, Italy, The Netherlands, Algeria, Tunisia, and Morocco. Also in attendance and offering important potential for trade with Quebec, will be most of the other Canadian provinces.

What is especially significant, according to Jean Garon, is that food and agriculture constitute the first economic sector important enough to justify the use of Olympic installations for such an event. The 1978 Salon will mark a new phase in the use of the Olympic Stadium, since prior to this event, part of the area

A MORE DIVERSIFIED APPLE INDUSTRY

Quebec apple growers, who are interested in renovating their orchards by reorienting them toward new apple varieties which will produce a wider choice on the market, can count on technical and financial assistance from the Quebec Department of Agriculture.

Jean Garon, the Minister responsible, has announced the implementation of a new agricultural program designed to reorganize the apple industry in Quebec. The province counts some 700 apple growers whose production in 1977 generated \$9 million in on-the-farm revenue.

At present, Quebec is self-sufficient in apple production and occupies a strong position on export markets. This industry is nevertheless in jeopardy because of the advanced age of our orchards and an over-concentration on the McIntosh variety. Furthermore, our older apple trees, on account of their height, result in greater harvest costs than do dwarf or semi-dwarf varieties.

The Quebec Department of Agriculture, in consultation with apple growers, has prepared a program to promote diversification and renovation of our orchards. Under this program, the Department will grant financial assistance, spread over a six-year period, to eligible apple growers planting a maximum of three hectares (7.5 acres) at a rate of one half hectare per year. The eligible grower will receive this assistance on the condition that he remove one hectare of McIntosh trees for every half hectare planted to new subsidized varieties.

Mr. Garon pointed out that the program does not intend to eliminate the McIntosh apple in Quebec. This variety will, on the contrary, continue to be a major asset to the industry in the province, but more em-

phasis will be placed on diversification in order to satisfy the demands of fresh fruit buyers and processors.

Financial Assistance

Department assistance may vary from \$1,250 to \$5,475 per hectare, depending on the area planted and the density of the subsidized orchard.

This assistance is determined by a method of graduated calculation, the aim of which is to encourage producers to plant the maximum subsidizable number of hectares (three). Therefore, for apple trees planted according to the propping method, the subsidy is \$2.75 a tree for the first hectare, \$3 for the second, and \$3.65 for the third. A grower using this method and having a maximum eligible density of 1,500 apple trees per hectare, would receive \$4,125 for the first hectare, \$4,500 for the second, and \$5,475 for the third, for a total of \$14,100 for the duration of the program.

The other common method of planting, i.e., the free-standing method, is subsidized at a rate of \$2.50 per tree for the first hectare, \$2.80 for the second and \$3.10 for the third. The maximum allowable density for orchards planted by using this method is 1,100 trees per hectare, the maximum subsidies therefore amounting to \$2,750 for the first hectare, \$3,080 for the second, and \$3,410 for the third, for a total of \$9,240.

The program is intended for growers who are at present cultivating a minimum of four hectares of standard apple trees. These growers must agree to follow the planting procedure recommended by Department specialists upon inspection of the orchard and a soil analysis.

In order to ensure our apple industry a supply which corresponds to market analysis, new varieties will be planted according to percentage decided in advance: Jersey Mac, 17 per cent; Courtland, 10 per cent; Spartan, 38 per cent, and Empire, 35 per cent. The removal of McIntosh trees at a rate of one hectare for one half hectare planted to new varieties must be carried out not later than the end of their fourth harvest following the planting of replacement trees. Finally, these replacement trees must be covered by crop insurance for dwarf and semi-dwarf varieties, promoted by the Quebec Crop Insurance Board.

This new program was introduced only a few months after the setting up of a joint plan by Quebec apple growers, allowing them to better control the marketing of their products. The "Société québécoise d'initiatives agro-alimentaires" last year already showed interest in this sector by associating itself with one of the major apple processing companies.

This, added to the existence of a crop insurance scheme for apples and the various promotional campaigns for the fruit, clearly indicates the strength of the apple industry in the province. Its orientation toward greater variety will allow it to maintain its position on domestic and external markets alike.

FWIC Annual Board Meeting

The Federated Women's Institutes of Canada Board Meeting was held June 20-22, 1978, at Carleton University, Ottawa. The spacious grounds by the Rideau Canal make this a delightful setting for the gathering of delegates from across Canada. Every province was represented and we heard reports from the Northern Canada Women's Institutes, which showed that this is an organization from "sea to sea to sea".

Delegates began registering Monday, June 19. In the evening there was an informal reception with refreshments, at which time acquaintances were renewed and new members were introduced.

Wednesday morning the Board Meeting was officially opened by the President, Mrs. Martha Bielish of Warspite, Alberta. Reports were heard from the President, Secretary-Treasurer, Educational Committee Chairmen, Administrative Committees, and Special Committees.

Mrs. Bielish announced that two resignations had been accepted at the Executive level — Mrs. C. Diamond, who was elected President of the Federated Women's Institutes of Ontario, and Mrs. B. Burgess, who is now Vice-President of New Brunswick Women's Institutes. Mrs. B. Noblitt has become the Executive member for Ontario, becoming Chairman of the Citizenship and Legislation Committee. Mrs. W. MacAlpine represents New Brunswick and is Chairman of the Education & Cultural Activities Committee.

Congratulations go to Dr. Ellen MacLean, who is now ACWW Area Vice-President and to Mrs. Marion

Fulton, who was named a member of the Order of Canada.

In referring to the International Decade for Women 1976-85, Mrs. Bielish recommended an information booklet "International Decade of Women — What it means to Canadian Women" for our study. This booklet has been prepared by the Advisory Council of the Status of Women.

In her closing remarks, Mrs. Bielish commented on "the sameness of purpose, dedication, and friendship" that she had noted during her travels through the 10 provinces and the Northwest Territories.

The secretary's report showed that although there was a slight decrease in the overall membership, Newfoundland and Labrador showed a substantial increase. The number of subscriptions to the Federated News has increased, and members are encouraged to read it carefully as it contains valuable information. Requests for subscriptions are arriving late. It is suggested that November be Federated News renewal month. Due to rising costs, the subscription rate for next year will be increased to \$1.50 per single subscription and \$1 for 10 or more.

The Agriculture Committee is in the process of preparing a statement on land use. This would make a good topic for study and discussion at branch level.

All Educational Chairmen commented on the wealth of information that they had received in the reports forwarded to them by the provincial conveners and all would be willing to share this material with any convener wishing for help in preparing a program. Briefs presented by various provinces will be on file in

the National Office. A list of these will be printed in the Federated News.

Mrs. E. Oddie, as Chairman of the Resolutions Committee, expressed the wish that more resolutions would be forthcoming from the provinces. It would seem a group without resolutions is a group without a viewpoint. The following resolutions were accepted by the Board:

1. Whereas many farm women take an active part in farm work, especially during busy seasons,

Be it resolved that farmers be allowed to deduct wages paid to wives from taxable income in the same way wages paid to children may now be deducted.

2. Whereas recent changes in the Canada Pension Plan now provide that in the event of marriage breakdown, the pension benefits are split equally between husband and wife, and whereas we believe that provisions should have been made for each to contribute equally to the Canada Pension Plan and receive two pensions regardless of marriage breakdown,

Be it resolved that FWIC urge the Federal Government to take immediate steps to include spouses under the provisions of the Canada Pension Plan by allowing them to make contributions and receive benefits.

3. Whereas Manitoba's Women's Institutes had success in lowering the crime rate among minors,

Be it resolved that FWIC adopt Manitoba's plan of action and that FWIC urge the provinces to adopt the plan for use in their own communities.

A copy of Manitoba Women's Institutes's plan of action is to be sent to each provincial office.

With 1979 being International Year of the Child, Mrs. B. Reeves, Executive representative for Prince Edward Island, was appointed Committee Chairman. She will coordinate all activities for FWIC.

A partial list of priorities as drawn up by ACWW is as follows:

1. Recognition of the importance of adequate nutrition and health care from birth to five years.
2. Provisions of pre-school and day care facilities to ensure adequate care, attention, and mental stimulus for one-to-five-year olds.
3. Recognition of the basic rights of the child as outlined by the Declaration of the Rights of the Child.

FWIC representatives attended a meeting of voluntary organizations, when a Canada Committee for IYC was formed.

As a rural organization concerned with home and family, FWIC will contact the Minister of Health and Welfare, Monique Bégin, urging the Government of Canada to appoint a National Commission to coordinate IYC activities. They will recommend that a representative from the Canada Committee for IYC be appointed to the commission, because of the work already accomplished. They will also recommend that the Commission's mandate be to ensure that on-going programs be promoted to provide social and economic well-being of all children.

The Provincial Women's Institutes have been asked to make a study of all provincial laws pertaining to children.

FWIC have instituted a Child Safety Competition, which is to be geared to one aspect of child safety. The entry is to be in the form of a kit. Instructions will be sent to the branches from the QWI office.

FWIC is hoping that every province will have an entry in the Child Safety

Competition, as well as the Citizenship Project — House Logs — and the three Tweedsmuir Competitions — Community History Kit, afghan, and a painting. December is the deadline for these competitions to be in the QWI office.

Dr. E. McLean, reporting on the ACWW Conference in Nairobi, said, "There are three words that have stayed with me — caring, sharing and commitment. These came up often throughout the Conference, in different ways, expressed in a different manner, but the overall thought and meaning were the same. They are what I would like you in your society to keep uppermost. Your commitment to whatever project you are involved with, or your commitment to the ongoing ACWW projects, such as to the Nutrition/Education project, or to the ever-needed Pennies for Friendship. These commitments are made because you care and want to share." She also referred to other projects such as the FWIC Land-rover for Lesotho and Co-Action No. 569.

It has been recommended that there will be three competitions in the next triennium. A decision was to be made on these at the ACWW Council Meeting held July 10-13 at Keele University, Staffordshire, England. The next ACWW Conference will be held in West Germany in 1980. Mrs. Bielish was to attend the Council Meeting as delegate from FWIC, as well as Dr. McLean, Area Vice-President for Canada. The FWIC Board voted to issue an invitation for the 1983 ACWW Conference to be held in Canada. There is to be an ACWW session at the FWIC Convention in Saskatoon, when other Canadian Societies will be invited to attend.

Plans for the 1979 FWIC Conference to be held at the University of Saskatchewan were discussed. Dates for the open Convention are June 23-28. The theme is "Perspectives and Priorities." More directives will be coming later.

The Adelaide Hunter Hoodless Homestead, birthplace of the founder of Women's Institutes, is a

popular attraction, having received 1,528 visitors in the past year. It is situated a short distance west of St. George, Ont.

The Hazel Stiles Scholarship of \$500 is to be awarded annually to a Women's Institute member wishing to further or upgrade her education or skills in areas related to cultural activities, to benefit both self and community. Applications will be made through the Provincial Board (one applicant per province may be forwarded annually) and must reach the FWIC Scholarship Committee by February 28. The successful applicant will be notified by April 1. Regulations will be available from the QWI office. The deadline for applications to reach the Provincial office is December.

The International Peace Garden, situated on the border between Manitoba and North Dakota, covers an area of 2,339.3 acres. The Bell Tower houses the chimes donated by the Central United Church, Brandon, Manitoba. The formal garden, extending both sides of the International Boundary, is now completed.

Mrs. P. Warren reported on the Northern Women's Conference which was jointly sponsored by the Department of Adult Continuing Education and the Women's Institutes. It proved to be very worthwhile. At this time Mary Kendi of Aklavik and Bella Ross from Ft. McPherson told of their experience as delegates to the ACWW Conference in Nairobi — funds for this being made available by ACWW.

We now have four branches in the Northwest Territories: Ft. McPherson, Aklavik, Inuvik, and Tuktoyuktuk, and Teslin in the Yukon. Cynthia Hill, Supervisor of the Adult Continuing Education with the Government of the Northwest Territories is the liaison for the Women's Institutes in the McKenzie area. She, with one representative from each of the four branches in the Northwest Territories and the one branch in the Yukon, is to be invited to attend the FWIC Convention in Saskatoon.

Plans for the future include a visit to Teslin, a follow-up Conference in In-

Pictured at Stanstead North's 50th Anniversary, left to right: Mrs. A. Lord, Stanstead County President, Mrs. J. Byers, Charter Member, Mrs. D. Gibson, President, Mrs. W. H. Rudd, Charter Member, and Mrs. G. Parker, QWI 1st Vice-President.



uvik, and a conference in the Great Slave Area. Newfoundland and Labrador Women's Institutes are to be given financial assistance in their meeting with the Inuit women in and around Nain, Northern Labrador.

Wednesday evening was Banquet Night with musical entertainment. The guest speaker was Mrs. Aileen Durrand of the Canada Department of Agriculture. She spoke on the part that the Department of Agriculture could play in the International Year of the Child and presented the Intra-Departmental Committee's proposals for bettering the life of rural youth.

Mrs. Sterling Parker,
1st Vice-President, QWI

50 Years for Stanstead North

Stanstead North celebrated their 50th Anniversary with a banquet and program. Special guests were our QWI First Vice-President, Mrs. Gwen Parker, and our County President, Mrs. Aileen Lord.

Two of the branch Charter Members were honoured: Mrs. W. H. Rudd and Mrs. John Byers. They were each presented with corsages and they made the initial cut in the anniversary cake. Branch President, Mrs. Doris Gibson, presented each with a 50-year pin.

Adding to the atmosphere of flowers and candles and the delicious supper served by the church Allegro Unit there was old fashioned music — piano and violin selections by Jack and Marge Keeley.

Mrs. Parker and Mrs. Lord each had words of inspiration as they offered congratulations. A brief history was read. All in all it was a delightful gathering and will be recorded in the annals of Stanstead North branch history.

Visitors from England

Being a member of the Women's Institutes opens doors very easily as Mrs. Joyce Barnett and Mr. and Mrs. Gray found recently. Both Mrs. Barnett and Mrs. Gray are WI members in England. Mrs. Barnett comes from the village of Smallfield on the Surrey-Sussex border, and Mrs. Gray's home is near Colchester in Essex. Both ladies had written to the Federated Women's Institutes office in Ottawa for information re WI branches near Montreal as they were to be in and around the area for holidays. They wanted to find out how people lived and farmed in this part of Canada. Their letters had been sent from Ottawa to Mrs. J. Robertson in Hemmingford.

The nearest WI branch to Montreal is the West Island branch in Lachine. In Mrs. Barnett's case there was enough time to make plans with West Island President, Mrs. Lucy French, and to send information to England before Mrs. Barnett left. On her arrival the two women got in touch and arrangements were made for Mrs. Barnett to attend the West Island branch meeting one evening, and the following afternoon they came out to Hemmingford for our meeting.

We enjoyed hearing about Mrs. Barnett's part of the country and about the work her WI does. She found our aims and efforts very similar. Her home is about 30 miles from London and her husband com-

mutes there every day. She showed us pictures of her village and a recent WI anniversary celebration and also pictures of Denman College, a private residence purchased many years ago by the WIs in England and used as a College where WI members can go and take handicraft courses of all kinds. We exchanged brochures and our President, Mrs. Florence Ellerton, presented Mrs. Barnett with a copy of the Branch's Apple Cookbook as a souvenir of her visit.

After the meeting was over Mrs. French took Mrs. Barnett over the Covey Hill road to Franklin where she had a lovely view of the St. Lawrence and Chateauguay Valleys. They drove on to Huntingdon and saw some of the farmland in that area and then attended the opening of the Ormstown Fair and did a tour of the Industrial Building where she saw samples of the hand work done by people in this area. Mrs. Barnett had had a long day but enjoyed it all and got a good idea of how we work — and play — in our corner of Quebec.

Mr. and Mrs. Gray were in Vancouver when they wrote but were to spend a few days with relatives in Saskatchewan before flying on to Montreal. They planned to rent a car and tour around the Quebec countryside for 10 days. A letter was sent to Saskatchewan saying that further information would be sent to their hotel in Montreal. Unfortunately, with the state of our mails, this

Mrs. Milton Brown, Brompton Road WI, was presented with a 25-year pin by Mrs. D. Cullen, then Sherbrooke County President.

letter never reached the Grays. However, Mrs. French had again been pressed into service and gave the Grays the telephone number of Mr. and Mrs. Harold Robertson of Howick. Mr. and Mrs. Gray are farmers and so were interested in talking with other farmers about conditions in Quebec.

After visiting Quebec City and touring part of the Gaspé Peninsula, Mr. and Mrs. Gray arrived in Lennoxville where they were able to meet the County President, Mrs. Eldora Turner. After a visit there they came to Hemmingford to meet the Jim Robertsons. Later they went to see Mr. and Mrs. Gunther Gnass where they were given a tour of the apple orchards and saw the equipment used and the cold storage units and learned about the apple industry. Next stop was Howick to meet the Harold Robertsons, who took them on a tour of the farming area in Howick, Ormstown, and Huntingdon. They returned for supper and stayed overnight.

The Grays were interested in the types of soil, the variety of crops, and the dairy industry in the area. They farm 500 acres, keep a number of Friesian cattle and harvest wheat, barley, rape, and flax. Two farm helpers are employed, each having a free house on the farm as well as free milk and fuel.

Sunday morning the tour continued to Riverfield and Aubrey with a call at Norton Creek Stables which is owned by Mr. and Mrs. Robert Morris. As well as seeing the horses, barn and tack room, the Grays enjoyed a visit with the Morris couple as the latter originally came from England and have relatives near the Grays' home.

The guests were a very pleasant couple to meet and entertain. Mrs. Gray received a Macdonald Journal, a new QWI cookbook, and a QWI annual report as souvenirs.

Mrs Anne Robertson,
Hemmingford

Mrs. Hazel Robertson,
Howick.



Branches Briefly

A gently hush has fallen over the fairgrounds. An occasional poster, a tired and tattered rosette, a forgotten ring hat — all that's left to remind one of the competitions, the crowds, the cry of the midway, the visiting in the barns and other buildings, the excitement and the enthusiasm. Ribbons have been hung, exhibits back in place, and exhibitors now turn their attention to pickling, to catching school buses, to classrooms, to renewed WI interests, to harvesting, and to that event peculiar to the season, the plowing match. Too, picnic hampers have been cleaned and sorted and stored away along with the memories of a quiet family meal by the river, a small outing to a friend's cottage, or an organized community gathering at the local picnic grounds. Though many WI branches remain very active during the summer months, others either cancel formal meetings or take the time to gather with family, friends, and other branches for a bus trip or more often, as reports would indicate, a good old-fashioned picnic.

Such an event was enjoyed by **Granby Hill** as 54 members and friends gathered. At the same time a gift was presented to Mr. and Mrs. John Cornish on the occasion of their 50th wedding anniversary. **For-dyce's** August meeting was to be in the form of a family picnic to be held at the Fordyce WI picnic grounds, and **Cowansville** also enjoyed a picnic "meeting". **Stan-bridge East** planned an outing to the Trapp family lodge in Stowe, Vermont, and Missisquoi County members were organizing a tour of the Dixville Home.

Senior Citizens were special guests of the **Richmond Young Women** and they truly must have appreciated the roll call: Bring a family heirloom and tell about it. Other branches, too, invited guests. **Milby** had the Orleans Home Demonstration Club from Vermont. Mrs. Hilliker gave a short talk on the aims and projects of the Club which includes nutrition, child welfare, sewing, home management, and clinic work, and she explained that each member is responsible for programming a monthly meeting. **Brompton Road** celebrated Grandmother's Day and had Fordyce members as visitors.

Inverness greeted a new member, Mrs. Yvette Purdon, and a new member was also welcomed at **Stanbridge East**. They would have been interested in the contest held at **Fordyce** which was a quiz on the Women's Institutes. That is one way of getting to know more about WI; another is to bring the histories up-to-date as reported by **Dunham** and **Fordyce**. And, on the subject of history, **Stanbridge East's** roll call was to name a place in Missisquoi County that should be considered an historical site. Among others, the home where the meeting was held was mentioned. Its first settler was Andrew Ten Eyck who settled in 1794. The farm is still in the Ten Eyck name with the present owner being the seventh generation, and his son and grandson live in the same house so they are the eighth and ninth generation.

A couple of roll calls produced useful household hints. From **In-verness** we learn that if you rinse your pan with water before heating milk, it will not stick, and from **Spooner Pond** that you should use butter instead of flour on your hands and board when kneading dough.

The landrover for Lesetho received some welcome donations: **In-verness**, \$25; **Gore**, \$10; and **For-dyce**, \$25 and \$25 for the Nutrition/Education project.

Finally, from **Waterloo-Warden** we leave you with this motto: "Teach the young how to think, not what to think."



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